Pergamon

Mechanics Research Communications, Vol. 26, No. 6, pp. 735–740, 1999
Copyright © 1999 Elsevier Science Ltd
Printed in the USA. All rights reserved
0093-6413/99/$–see front matter

MECHANICS RESEARCH COMMUNICATIONS CONTENTS INDEX VOLUME 26, 1999

1999 Vol. 26, No. 1

Scientific and Applied Communications

G.-S. DUI	1	Some New Representations of Spin Tensors
F. X. MEI, Y. F ZHANG and M. SHANG	7	Lie Symmetries and Conserved Quantities of Birkhoffian System
N. D. CARANICOLAS	13	Controlling Chaos in Map Models
C. PAPADIMITRIOU, L. S. KATAFYGIOTIS AND J. L. BECK	21	Asymptotic 2p-Moment Stability of Stochastic Linear Systems
D. Y. GAO	31	Pure Complementary Energy Principle and Triality Theory in Finite Elasticity
A. DROZDOV	39	A Constitutive Model in Finite Viscoelastoplasticity of Rubbery Polymers
O. CAZACU	45	On the Choice of Stress-Dependent Elastic Moduli for Transversely Isotropic Solids
Q. XU	55	Residual Stress Analysis of Functionally Gradient Materials
E. SHIROKOVA	61	The Solution of the Plane Elasticity Basic Problems for the Unbounded Domains with Boundary Cusps
E. SHIROKOVA and P. N. IVAN'SHIN	65	The Exact Solution of the Plane Elasticity Problems for the S-Cut with Cusps
M. MOFID and A. YAVARI	69	Bending of Unbonded Multilayered Beams and Plates
C. BLOHM and R. KIENZLER	75	On the Distribution of Hoop Stresses Around Circular Disks
Y. S. REN, H. Z. QIN AND Z. L. ZHAO	83	Nonlinear Vibration Analysis of a Beam with Dry Friction at the Supports
Y. NIÑO and A. ATALA	91	Discrete Computer Simulation of Bedforms
M. KAMIŃSKI	99	Probabilistic Characterization of Porous Plasticity in Solids
B. S. PADMAVATHI	107	Stokes Flow Past a Permeable Circular Cylinder
H. A. ATTIA	115	Transient MHD Flow and Heat Transfer Between Two Parallel Plates with Temperature Dependent Viscosity

Announcements

30 Integrity, Reliability and Failure Conference: Porto, Portugal, July 19-22, 1999

(Contents Continued)

MECHANICS RESEARCH COMMUNICATIONS

1999 Vol. 26, No. 2

Scientific and Applied Communications

M. BELHAQ, E. FREIRE, M. HOUSSNI and A. J. RODRÍGUEZ-LOUIS	123	Second Period-Doubling in a Three-Dimensional System
S. A. EL HAFEEZ and M. E. FARES	129	On the Stability Behavior of the Rotational Motion in a Circular Orbit for an Elastic-Rigid Body
Z. H. ZHU, R. V. MAYORGA and A. K. C. WONG	139	Dynamic Robot Manipulator Trajectory Planning for Obstacle Avoidance
G. HERRMANN and R. KIENZLER	145	On the Representation of Basic Laws of Continuum Mechanics by 4 x 4 Tensor
C. MENDOZA and D. ZHOU	151	Theoretical Derivation of Yalin's (1964) Empirical Equation for Ripple Length
M. S. GHIDAOUI and A. A. KOLYSHKIN	161	Some Global Properties of Flow in a Heterogeneous Isotopic Porous Medium
Z. K.-H. CHU	167	Flow in an Annulus with Corrugated Walls
M. YÜRÜSOY and M. PAKDEMIRLI	171	Exact Solutions of Boundary Layer Equations of a Special Non-Newtonian Fluid Over a Stretching Sheet
K. C. JANE and C. C. HONG	177	Steady-State Aeroelasticity of Fluid Flow Over a Laminated Composite Plate
G. E. STAVROULAKIS and A. ROHDE	185	Normal Forms and Stability in Nonsmooth Potential Elastostatics
B. F. SHORR	191	A Wave Approach to Finite Element Analysis of Solids
S. STUPKIEWICZ	197	A Class of Frictional Contact Problems with Proportional Response to Proportional Loading
F. HAMMOUM and P. AUDEBERT	203	Modeling and Simulation of (Visco)-Plastic Behavior of Wood under Moisture Change
T. C. LIM, M. FUJIHARA, M. ZAKO S. RAMAKRISHNA and H. M. SHANG	209	Sheet Forming Simulation of Knitted Fabric Composites Considering Fabric Reorientation
D. TRAJKOVSKI and R. CUKIC	217	A Coupled Problem of Thermoelastic Vibrations of a Circular Plate with Exact Boundary Conditions
A. KHAN and F. AHMAD	225	Dilatational and Shear Waves without Energy Dissipation in a Rotating Medium
P. LU, H. CHEN, M. J. TAN and K. M. LIEW	229	Influence of Cavity Boundary Conditions on the Effective Elastoelastic Moduli of Piezoelectric Ceramic with Cavities

(Contents Continued)

W. YANG, H. PAN, D. ZHENG and Q. CAI	239	Vibration and Dynamic Instability of Ferromagnetic Thin Plates in Magnetic Fields
M. ZIDI	245	Torsion and Telescopic Shearing of Compressible Hyperelastic Tube

MECHANICS RESEARCH COMMUNICATIONS

1999 Vol. 26, No. 3

Scientific and Applied Communications

E. FREIRE, L. PIZARRO and A. J. RODRÍGUEZ-LUIS	253	Analytical and Numerical Study of a Four-Parameter Family of Mechanical Oscillators
W. BLAJER	261	State and Energy Stabilization in Multibody System Simulations
A. EL-GOHARY	269	On the Control of Programmed Motion of Satellite-Gyrostat Containing Fluid
E. V. WILMS and H. COHEN	277	A Body Whose Ends Move in Perpendicular Slots, With a Friction Disk
T. A. ANGELOV	281	On a Rolling Problem with Damage and Wear
T. A. ANGELOV	287	A Thermomechanically Coupled Rolling Problem with Damage
D. X. DU and Q.-S. ZHENG	295	A Note on Cauchy-Voigt Dispute of Independent Constants in Anisotropic Elastic Hooke's Law
I. V. CHENCHIAH and S. M. SIVAKUMAR	301	A Two Invariant Thermomechanical Model for Shape Memory Alloys
D. WEICHERT, A. HACHEMI and F. SCHWABE	309	Shakedown Analysis of Composites
J. ATKOCIUNAS	319	Mathematical Models of Optimization Problems at Shakedown
C. MARTIN, A. DRAGON and H. TRUMEL	327	A Viscoelastic Homogenization for a Class of Filled Elastomers
A. N. ABD-ALLA	335	Nonlinear Constitutive Equations for Thermo-electroelastic Materials
S. SHEN, T. NISHIOKA and Z.-B. KUANG	347	Impact Interfacial Fracture for Piezoelectric Ceramic
A. RAZAKAMIADANA and M. ZIDI	353	Buckling and Postbuckling of Concentric Cylindrical Tubes under External Pressure
S. S. OKOYA and S. O. AJADI	363	Critical Parameters for Thermal Conduction Equations
A. CHANDA and J. DAS	371	Inhomogeneous Vertical Turbulent Convection in the Planetary Boundary Layer

(Contents Continued)

J. ROMERO and R. SAMPAIO 379 A Numerical Model for Prediction of the Air-Core Shape of Hydrocyclone Flow

Announcements

385 1998 CISM Report

MECHANICS RESEARCH COMMUNICATIONS

1999 Vol. 26, No. 4

Scientific and Applied Communications

M. OSTOJA-STARZEWSKI, S. D. BOCCARA and I. JASIUK 387 Couple-Stress Moduli and Characteristic Length of a Two-Phase Composite

A. N. ABD-ALLA 397 Natural Frequencies of Transversely Isotropic Composite Elastic Cylinder Placed in a Magnetic Field

J. CHENG, B. WANG and S. DU 407 Time Dependence of Effective Properties of Polycrystalline Ferroelectric Ceramics

J. LIU, S. DU and B. WANG 415 A Screw Dislocation Interacting with a Piezoelectric Bimaterial Interface

J. S. YANG 421 A Nonlinear Theory for Thin Piezoelectric Plates in Moderately Large Extensional Deformations

C.-F. GAO and M.-Z. WANG 427 Periodical Cracks in Piezoelectric Media

C.-F. GAO and M.-Z. WANG 433 An Easy Method for Calculating the Energy Release Rate of Cracked Piezoelectric Media

Z. G. ZHOU 437 Two Collinear Griffith Cracks Subjected to Anti-Plane Shear in Infinitely Long Strip

I. ECSEDI 445 Bounds for the Torsional Rigidity of Elastic Ring

C. CERCIGNANI and M. LAMPIS 451 A New Model for the Boundary Conditions of the Boltzmann Equation

Z. K.-H. CHU 457 Flow in a Microtube with Corrugated Wall

T. BUI DINH and T. S. CHOI 463 Application of Image Processing Techniques in Air/Water Two Phase Flow

M. KUMARI and G. NATH 469 Flow and Heat Transfer in a Stagnation-Point Flow over a Stretching Sheet with a Magnetic Field

A. EL-GOHARY and S. Z. HASSAN 479 On the Exponential Stability of the Permanent Rotational Motion of a Gyrostat

T. J. KALVOURIDIS 489 Motion of a Small Satellite in Planar Multi-Body Surroundings

J. JI and L. YU 499 Amplitude Modulated Motions in a Two Degree-of-Freedom System with Quadratic Nonlinearities

(Contents Continued)

Under Parametric Excitation: Experimental Investigation

MECHANICS RESEARCH COMMUNICATIONS

1999 Vol. 26, No. 5

Scientific and Applied Communications

J. LERBET	507	Dynamics of Mechanisms: Some Intrinsic Properties
B. WU and Z. LIU	517	On the Stability of Dynamic Critical Points in Imperfect Systems
Y. LEE	525	An Alternative Derivation of the Polar Decomposition
G. DUI and Q. REN	529	Conjugate Stress of Strain $E^{(3)}=\frac{1}{3}(U^3-I)$
A.D. DROZDOV	535	Modeling Volume Recovery in Glassy Polymers
G.K. HU, B. HAN and L. LIAO	541	A Note on Microstructural Interpretation of the Material Constants for Couple Stress Theory
V. CARVELLI and A. TALIERCIO	547	A Micromechanical Model for the Analysis of Unidirectional Elastoplastic Composites Subjected to 3D Stresses
L. BORGES, R. FEIJOO and N. ZOUAIN	555	A Directional Error Estimator for Adaptive Limit Analysis
M.A. HAMADOUCHE and D. WEICHERT	565	Application of Shakedown Theory to Soil Dynamics
O.S. LEE and D.Y. KIM	575	Crack-Arrest Phenomenon of an Aluminum Alloy
W.Q. CHEN, T. SHIOYA and H.J. DING	583	Integral Equations for Mixed Boundary Value Problem of a Piezoelectric Half-Space and the Applications
G.C. RUTA	591	On Kelvin's Formula for Torsion of Thin Cylinders
V.V. BURNAYEVA and L.G. ROMANENKO	597	The Numerical Solution of a Frictionless Interaction Problem of Elastic Strip and a Set of Elastic Semistrips
C.Y. WANG	603	Thermo-Convective Stability of a Fluid-Saturated Porous Medium Inside a Cylindrical Enclosure – Permeable Top Constant Flux Heating
T. BALKAN and M.A. SAHIR ARIKAN	609	Modeling of Paint Flow Rate Flux for Circular Paint Sprays by Using Experimental Paint Thickness Distribution
W. BIELSKI, J.J. TELEGA and R. WOJNAR	619	Non Stationary Flow of a Viscous Fluid Through a Porous Elastic Medium: Asymptotic Analysis and Two-Scale Convergence
R.R. BLAGOEVA	629	A Numerical Approach to Solution of Diffusion-Reaction Problem

(Contents Continued)

Announcements
516 CISM Programme 2000

MECHANICS RESEARCH COMMUNICATIONS

1999 Vol. 26, No. 6

Scientific and Applied Communications

A. ELIPE and A. DEPRIT 635 Oscillators in Resonance

J. F. CARDENAS-GARCIA and J. J. E. VERHAEGH 641 Catalogue of Moire Fringes for a Bi-Axially-Loaded Infinite Plate with a Hole

J. F. CARDENAS-GARCIA and J. J. E. VERHAEGH 649 The Practical Use of the Hole Method in Moire

Q. LI, G. P. STEVEN, O. M. QUERIN and Y. M. XIE 657 Evolutionary Shape Optimization for Stress Minimization

M. A. DOWAIKH 665 On SH Waves in a Pre-Stressed Layered Half-Space for an Incompressible Elastic Material

J. WANG and S. FANG 673 The State Vector Methods of Axisymmetric Problems for Multilayered Anisotropic Elastic System

Z. P. HUANG 679 A Constitutive Theory in Thermo-Viscoelasticity at Finite Deformation

C. M. WANG and S. KITIPORNCHAI 687 Frequency Relationship Between Levinson Plates and Classical Thin Plates

A. K. SINGH and P. C. PANDEY 693 An Implicit Integration Algorithm for Plane Stress Damage Coupled Elastoplasticity

S. RAMTANI and M. ZIDI 701 Damaged-Bone Remodeling Theory: Thermodynamical Approach

K. C. JANE and Z. Y. LEE 709 Thermoelastic Transient Response of an Infinitely Long Annular Multilayered Cylinder

Y.-S. WANG 719 Nonlocal Elastic Analogy for Wave Propagation in Periodic Layered Composites

T. ÖZER 725 On the Symmetry Group Properties of Equations of Non Local Elasticity

735 Contents and Author Index for Volume 26, 1999

Announcements
656 In Memoriam - Behrouz Tabarrok

724 Second International Symposium on Impact and Friction of Solids, Structures and Machines, Montreal, August 8-12, 2000

734 16th International Conference on Structural Mechanics in Reactor Technology, Washington, DC, August 12-17, 2001